

Application of: Alan Eric Fischer, et al.
Serial No.: 10/708,815
Amendment A

REMARKS:

With careful attention to the Examiner's comments in the Office Action dated January 23, 2007, the Application has been amended to place it in condition for allowance. Claims 1 – 17 are pending in the application. Claims 6 & 7 stand objected to because of informalities. Claims 1 - 17 stand rejected under 35 U.S.C. 101, 35 U.S.C. 112, second paragraph, 35 U.S.C. 102(e), and 35 U.S.C. 103(a). Claims 1 – 17 include independent claims 1 and 9.

TITLE OF THE INVENTION:

The Examiner has noted that the title of the invention is not descriptive. Applicant respectfully submits amendment of the title of the invention which clearly indicates the present invention to which the claims are directed.

CLAIM OBJECTION:

The Examiner has noted that claims 6 and 7 are objected to because of typos. Applicant respectfully submits amendment of the claims 6 and 7, which corrects the typo (GANTT → Gantt) and deletes the erroneously included numeral “5.”

CLAIM REJECTIONS:

With careful attention to the Examiner's rejections in the Official Action dated January 23, 2007, Applicant submits its request for reconsideration.

35 U.S.C. §101

Applicant respectfully disagrees with the Examiner's rejection of claims 1 – 14 under 35 U.S.C. 101 as noted in the remarks below. Independent claims 1 and 9 have been amended for clarity.

The Examiner rejected claims 1 – 14 under 35 U.S.C. 101 indicating that the claimed invention is directed to non-statutory subject matter, specifically indicating that the claims 1 – 14 do not appear to result in a physical transformation of matter or recite a concrete, tangible, and useful result. However, claims 1 – 14 do clearly recite concrete, TANGIBLE, and useful results which provide a tangible output.

“In determining whether the claim is for a ‘practical application,’ the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is ‘useful, tangible and concrete.’”

Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, United States Patent and Trademark Office OG Notices: 22 November 2005, (**Emphasis added**). The claim must be examined to see if it includes anything more than a Sec. 101 judicial exception. Id. “If the claim is directed to a practical application of the Sec. 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. Sec. 101.” Id.

With regard to independent claims 1 and 9 and the claims depending there from, they clearly provide tangible results that are recited in the claims. For example, the Examiner argues that “generating” limitation recited in several claims may be interpreted to take place solely within a computer such that they are not necessarily displayed or otherwise communicated to a

customer (user). As articulated in the above Interim Guidelines indicated, the claims do not need to recite steps taken to achieve a particular result are useful, tangible and concrete, such as a step of displaying or a step of being communicated to a user. Claim 1 recites that 1) providing a molecule database; 2) providing a synthesis database; and 3) deriving information regarding a chemical compound development project from the molecule database and from the synthesis database. The derived information regarding a chemical compound development project is clearly ‘useful, tangible and concrete.’ The derived information can be displayed or used for further processes without being displayed or communicated to the user. The same analysis applies to the generated synthesis plan recited in Claim 9.

Further, Data Structure Claims sometimes referred to as *Lowry* Claims, *In re Lowry*, 32 F.3d 1579, (Fed. Cir 1994), are clearly patentable subject matter and weight should be given to the functional interrelations of the data structures, in this case in a client-server environment that can be accessed by various object oriented software applications executing in the client-server environment. The limitations are recited as residing on and accessible to a client-server network environment and are functionally interrelated as noted above, which clearly indicates that they are accessible by graphical user interface applications executing in the client-server network environment. However, Applicant has further amended claims 1 and 9 to further clarify this point. Both Claims 1 and 9 recite the step of “providing access to the molecules database and the synthesis database for a plurality of user groups via at least one user interface in association with a chemical compound development project.” Therefore, Applicant respectfully asserts that the rejection under 101 has been overcome based on this response.

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35 U.S.C. §112

Claims 1 – 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Specifically, the Examiner indicates that Claim 1 recites “a method for chemical compound development project management” whereas the body of the claim does not recite any type of management. The amended preamble of Claim 1 recites “A method of managing data for chemical compound development project”. The preamble of Claim 1 as amended clearly controls the metes and bounds of the claim.

The Examiner indicates that it is not clear that the term “using” recited in Claims 8 and 9 is intended to be an actual step or merely some limitation of the data applied to the step of searching or generating respectively. The term “using” is clearly not an actual step but a limitation of the data applied to the step of searching or generating respectively. However, Applicant has further amended claims 8 and 9 to further clarify this point. Applicant adds the preposition “by” to the term “using” recited in claims 8 and 9.

Claims 10 – 17 have been amended as noted herein to overcome the rejections for indefiniteness related to antecedent basis. Claims 10 - 17 as amended recite “the target molecule associated with the synthesis plan” which clearly refers to the target molecule in the step of “generating a synthesis plan for a target molecule” recited in Claim 9.

Claims 15 and 16 have been amended as noted herein to overcome the rejections for indefiniteness related to insufficient antecedent basis. The terms “total costs” and “synthesis

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plans" have been amended into singular forms to be consistent with the same terms in the respective claims.

Therefore, it is respectfully submitted that Claims 1 – 17 are clearly allowable.

35 U.S.C. §102

LEGAL PRINCIPLE - A claim is anticipated under 35 U.S.C. 102 only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Company, 814 F.2d 628 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim of the invention. Richardson v. Suzuki Motor Company, 868 F.2d 1226, 1236 (Fed. Cir. 1989). With regard to "inherency," the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency or characteristic. In re Rijckaert, 9 F.3d, 1531, 1534 (F.2d 1993). To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be recognized by persons of ordinary skill. Inherency, however, may be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. In re Robertson, 169 F.3d, 743, 745. Also, a reference cannot anticipate a claim if there is any structural difference, even if the prior art device performs the function of the claim. In re Ruskin, 347 F.2d 843.

Claims 1 – 5 and 7 – 14

The Examiner asserts that all the limitations of Claims 1 – 5 and 7 – 14 of the present invention are disclosed by the Mydlowec et al. reference (US Pat. No. 6,571,226 - hereinafter “Mydlowec et al. reference”).

However, the Mydlowec et al. does not anticipate all limitations of claims 1 and 9 as amended since both claims 1 and 9 as amended recite the step of “providing access to the molecules database and the synthesis database for a plurality of user groups via at least one user interface in association with a chemical compound development project” which is not disclosed in the Mydlowec et al. reference. The Mydlowec et al. reference in no way teaches the step of “providing access to the molecules database and the synthesis database for a plurality of user groups via at least one user interface in association with a chemical compound development project.”

Referring to col. 2, lines 15 – 25 & lines 42 – 48 of the Mydlowec et al. reference, it discloses a method for designing a synthesis route for a target molecule. The Mydlowec et al. reference acknowledged problems of the conventional art, which do not automatically generate synthesis routes, because they are interactive with the user, only helping guide the selection of promising routes. To solve this problem, the Mydlowec et al. provides a computer-implemented method to perform an automated designing of a synthesis route for a target molecule. On the other hand, the present invention provides a plurality of user groups with the shared access to the various resources, such as project synthesis plans database, a molecules database, and a synthesis database, for the chemical compound development project management. Contrary to the Mydlowec et al., the present invention allows the users to be more interactive with the chemical

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compound development project. Further, the Mydlowec et al. provides method for generating only a specific synthesis route for a target molecule, whereas the present invention provides various resources to manage the whole chemical compound development project at the administrative level. Furthermore because the Mydlowec et al. provides “automated” computer system to generate a synthesis route for a target molecule, it does not provide any access to the resources for the users who have been involved in the chemical compound development project to manage the designing process for the synthesis route. As such, the present invention is not anticipated by the Mydlowec et al. Therefore, Applicant asserts that claims 1 and 9 as amended and claims 2 – 5, 7, 8 and 10 – 14 depending there from are now in condition for allowance.

35 U.S.C. §103

LEGAL PRINCIPLE - To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claim combination or combine the references and the reasonable expectation of success must both be found in the prior art and not based on the Applicant’s disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

With regard to the first criteria for a suggestion or motivation to modify or combine references, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or

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motivation to do so either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. In re Kotzab, 217 F.3d 1368 (Fed. Cir. 2000). Courts and patent examiners should determine whether needs or problems known in the field and addressed by the prior art references can provide a reason for combining the elements in the manner claimed. KSR Intern. Co. v. Teleflex Inc., No. 04-1350, 2007 WL 1237837, at 4 (Apr. 30, 2007). “In formulating a rejection under 35 USC § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.” Memo on KSR Decision to Examiners issued by the United States Patent and Trademark Office, May 4, 2007. The prior art is not sufficient to establish obviousness without some objective reason to combine the teachings of the references. In re Kotzab, 217 F.3d 1368 (Fed. Cir. 2000), also see In re Sang Su Lee, 277 F.3d 1338 (Fed. Cir. 2002). Also, the proposed modification would render the prior art being modified unsatisfactory for its intended purpose and there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900 (Fed. Cir. 1984).

Claims 6 and 15 – 17

The Examiner rejected Claim 1-3, 14, and 16 under 35 U.S.C. 103(a) as being unpatentable over the Mydlowec et al. reference in view of Kaufman (U.S. Publication No. 2001/0032029 – hereinafter “Kaufman reference”).

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With respect to claims 1 and 9, the Examiner indicates that the Mydlowec et al. reference teaches querying the chemical and reaction databases for determining the cost estimate of the entire synthesis of a target molecule, but does not teach steps of describing a Gantt chart (claim 6), generating an offer to develop the target molecule for a customer (claim 15), receiving acceptance from the customer and adding experiments to the plan to schedule required resources (claim 16), and tracking progress (claim 17). However, the Examiner asserts that the Mydlowec et al. reference in view of the Kaufman reference teaches and/or suggests all claim limitations of claims 6 and 15 – 17.

As discussed above, the Mydlowec et al. reference does not teach or suggest all the limitations of the independent claims 1 and 9 as amended. Furthermore, Mydlowec et al. teaches away from a combination with the Kaufman reference. There is no motivation to combine if a reference teaches away from its combination with another source. Tec Air, Inc. v. Denso Mfg. Michigan Inc., 192 F.3d 1353, 1360 (Fed. Cir. 1999). “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set forth in the reference, or would be led in a direction divergent from the path that was taken by the applicant … [or] if it suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the device.” Id. (quoting In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994)). A prior art reference may teach away impliedly when a modification or combination would render inoperable the invention disclosed in the reference. In re Gordon, 733 F.2d 900, 902 (Fed. Cir. 1984).

In McGinley v. Franklin Sports, Inc., McGinley’s patent discloses and claims an instructional pitching device in the form of a regulation baseball with specific "finger placement

indicia" for teaching students how to grasp a baseball for throwing different types of pitches. 262 F.3d 1339 (Fed. Cir. 2001). The indicia are coded by coloring all indicia which are representative of a certain type of pitch in one color and indicia representative of another type of pitch in a different color. Id. at 1344. To further assist a student in learning how to throw a particular pitch, the indicia are shaped so as to indicate the relationship of the palm of the hand in grasping the ball. Specifically, the portion of each "egg-shaped" indicium to be situated closest to the palm is slightly tapered so as to indicate the correct orientation of the baseball in the palm. Id. A patent to Pratt disclosed a baseball having multiple sets of finger placement indicia for teaching baseball players to throw different types of pitches. Specifically, Pratt's written description disclosed the placement of finger and thumb placement indicia for three types of pitches (*i.e.*, fast ball, curve ball, and screw ball). Id. at 1344-45. An equatorial band was an important feature of Pratt's claimed invention. When a student threw Pratt's baseball correctly, bands of complementary colors in the equatorial band would blend into a single color to provide a visual indication to the student that the ball had been thrown with proper rotation. Id. Pratt did not provide for different sets of indicia on a single ball for distinguishing between left-handed and right-handed students. Id. A patent to Morgan disclosed a baseball training device using a lightweight and inexpensive baseball "replica" fabricated in the form of plastic or metallic hemispherical shells which occupy a minimum of space before use, but which can be easily assembled by gluing the two hemispherical halves together. A single set of finger-shaped marks was provided on the baseball training device to teach a student how to throw a baseball with a particular curve or break. Id. The Federal Circuit held that to combine the finger placements of Morgan with the Pratt ball would also render the Pratt ball inoperable, by eliminating the multi-

colored equatorial band, a claimed feature of the Pratt patent also required for successful operation of Pratt's invention. Id. at 1354.

Likewise, in this case, the Mydlowec et al. teaches away from its combination with the method disclosed by Kaufman reference. The Mydlowec et al. acknowledged problems of the conventional art, which do not automatically generate synthesis routes, because they are interactive with the user, only helping guide the selection of promising routes. To solve this problem, the Mydlowec et al. provides a computer-implemented method to perform an automated designing of a synthesis route for a target molecule. On the other hand, the present invention provides a plurality of user groups with the shared access to the various resources, such as project synthesis plans database, a molecules database, and a synthesis database, for the chemical compound development project management. Contrary to the Mydlowec et al., the present invention allows the users to be more interactive with the chemical compound development project. The Mydlowec et al. provides "automated" computer system to generate a synthesis route for a target molecule, it does not provide any access to the resources for the users who have been involved in the chemical compound development project to manage the designing process for the synthesis route. As such, the Mydlowec et al. reference teaches away the users' accesses to the molecules database and the synthesis database via at least one user interface in association with a chemical compound development project. As such, claims 6 and 15 – 17 are therefore not made obvious by the Mydlowec et al. and Kaufman references, either alone or in combination.

If any issue regarding the allowability of any of the pending claims in the present application could be readily resolved, or if other action could be taken to further advance this

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application such as an Examiner's amendment, or if the Examiner should have any questions regarding the present amendment, it is respectfully requested that the Examiner please telephone Applicant's undersigned attorney in this regard.

Respectfully submitted,

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